|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Status** | **Sensitivity** | **Specificity** | **Balanced Accuracy** | **Status** | **Sensitivity** | **Specificity** | **Balanced Accuracy** | **Status** | **Sensitivity** | **Specificity** | **Balanced Accuracy** |
| **Combined Status** | | | | | | | | | | | |
| **Logistic Ridge Regression** | | | | **Random Forest** | | | | **Boosting** | | | |
| NNN | 0.9524 | 0.9741 | 0.9633 | NNN | 0.9524 | 0.9741 | 0.9633 | NNN | 0.9524 | 0.9829 | 0.9676 |
| NNP | 0.4286 | 0.9923 | 0.7104 | NNP | 0.2857 | 0.9923 | 0.6390 | NNP | 0.8574 | 0.9770 | 0.9170 |
| PNN | 0.2000 | 0.9921 | 0.5961 | PNN | 0.1000 | 1.0000 | 0.5500 | PNN | 0.3000 | 0.9449 | 0.6224 |
| PNP | 0.4000 | 0.9697 | 0.6848 | PNP | 0.4000 | 0.9621 | 0.6811 | PNP | 0.2000 | 0.9772 | 0.5886 |
| PPN | 0.9865 | 0.6825 | 0.8345 | PPN | 1.0000 | 0.6984 | 0.8492 | PPN | 0.9324 | 0.7937 | 0.8630 |
| PPP | 0.3000 | 0.9829 | 0.6415 | PPP | 0.4500 | 0.9915 | 0.7207 | PPP | 0.4000 | 0.9829 | 0.6915 |
| **Overall Accuracy:** 0.7737 | | | | **Overall Accuracy:** 0.7883 | | | | **Overall Accuracy:** 0.781 | | | |
| **Separated Status** | | | | | | | | | | | |
| ER | 0.8571 | 0.9725 | 0.9148 | ER | 0.8214 | 0.9725 | 0.8970 | ER | 0.9643 | 0.9633 | 0.9638 |
| PR | 0.8140 | 0.9894 | 0.9017 | PR | 0.7674 | 0.9894 | 0.8784 | PR | 0.8605 | 0.9149 | 0.8877 |
| HER2 | 0.9905 | 0.5312 | 0.7609 | HER2 | 1.0000 | 0.6250 | 0.8125 | HER2 | 0.9714 | 0.6250 | 0.7982 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Receptor Combination** | | **Subtype** | **Abbrevation** | **Count** |
| ER: Positive PR: Positive HER2: Positive | | Lumina B (HER2+) | PPP | 99 |
| ER: Positive PR: Positive HER2: Negative | | Lumina B (HER2-); Lumina A | PPN | 355 |
| ER: Positive PR: Negative HER2: Positive | | Lumina B (HER2+) | PNP | 23 |
| ER: Positive PR: Negative HER2: Negative | | Lumina B (HER2-); Lumina A | PNN | 64 |
| ER: Negative PR: Negative HER2: Negative | | Triple Negative | NNN | 111 |
| ER: Negative PR: Negative HER2: Positive | | HER2+ | NNP | 32 |
|  | **Removed** | | | |
| ER: Negative PR: Positive HER2: Negative | |  | NPN | 8 |
| ER: Negative PR: Positive HER2: Positive | |  | NPP | 2 |